

Fact Sheet for Permit Modification

****The permit was modified to remove temperature limitations, adjust phosphorus limitations, adjust Water Quality Trading calculations, and clarify WET testing requirements in permit section 1.2.4. The Temperature Limits Compliance schedule was removed from permit section 2.3. The attachment “Temperature Limits for Receiving Waters with Unidirectional Flow” was added to the fact sheet to show adjusted thermal limit calculations. Changes associated with the modification are highlighted in gray.****

General Information

Permit Number:	WI-0049131-04-1
Permittee Name:	Wisconsin Electric Power Co -Town of Paris
Address:	PO BOX 2046
City/State/Zip:	Milwaukee, WI 53201
Discharge Location:	Manhole upstream of the common site drainage ditch culvert to the Unnamed Tributary to the Des Plaines River. (Lat: 42° 39' 54.15261" N, Long: 88° 0' 49.66489" W)
Receiving Water:	Unnamed Tributary to the Des Plaines River (Des Plaines River Watershed, Fox (IL) River Basin) in Kenosha County
StreamFlow (Q _{7,10}):	0 cfs
Stream Classification:	Warm water sport fish community; non-public water supply.

Facility Description

The Paris Generating Station (PSGS) consists of four combustion turbine-generator units, each with a net generating capacity of 100 megawatts, for a facility-wide net generating capacity of 400 megawatts. Natural gas serves as the primary fuel and #2 ultra-low sulfur fuel oil (diesel) is the emergency back-up fuel. The facility operates as a peak power plant to provide electricity only during periods of high demand or when base-load and intermediate-load facilities are offline. An oil water separator (OWS) is used onsite to treat stormwater runoff from a fuel oil aboveground storage tank containment dike, the fuel oil tank truck unloading area, area drains in and around the fuel oil transfer pump house and fuel oil heaters, the waste liquid holding tank impoundment, the auxiliary and main transformers, exhaust stack areas, and service floor building drains. The OWS is capable of treating a maximum of 50 gpm (72,000 gpd) and contains a 1000-gallon oil storage sump.

PSGS uses water from an on-site high capacity well (design flowrate of 600 gpm) for plant processes. The well is the source of water for the Evaporative Condenser/Inlet Air Cooling System (EC/IACS), wet nitrogen oxides (NO_x) air pollution control system, dilution water system, and fire protection system.

When in service, the EC/IACS uses an ammonia-based refrigeration system to produce ice during periods of off-peak electrical demand. During warm weather, ice water stored in large storage tanks (two 1.5 million-gallon tanks) can be circulated through chilled water coils placed across the inlet air ducts for the combustion turbines. When the intake air flows past the chilled water coils, the air is cooled (cooler air is denser), maintaining the generating capacity of the combustion turbines during periods of peak summertime electrical demand. The ice water tanks are typically filled in late April to early May, and then ice is made as needed until the beginning of September when the remaining ice is used or allowed to melt. The EC/IACS was taken out of service in November 2009 and is currently in long-term layup. The EC/IACS may be placed back in service if the electrical system demand requires its usage.

The wet nitrogen oxides (NO_x) air pollution control system involves injection of purified water into the combustion process to control temperature and, hence, NO_x emissions. Water from the on-site high capacity well is purified for this

system by multimedia filters (to remove suspended solids), a reverse osmosis system (to remove dissolved solids), and demineralizers (for polishing). The purified water is stored in two tanks on site for use as needed. Multimedia filter backwash and reverse osmosis reject are discharged onsite. The demineralizer systems are regenerated offsite. The only wastewater from the demineralizer systems discharged onsite is partially demineralized groundwater, which is drained from the demineralizer systems prior to shipping to ensure weight limits will not be exceeded during over-the-road transportation. From time to time, vendor-supplied, trailer-mounted reverse osmosis systems and/or demineralizer systems are brought onsite, as needed, to help replenish the supply of purified water.

A dilution water system was installed to address Outfall 001 effluent toxicity concerns. A temporary dilution water system was installed in early 2017 to route well water to Outfall 001, and a permanent system was installed in November 2018. The dilution water system is operated when the reverse osmosis system is in operation.

The facility was found to be in substantial compliance with its current permit.

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)
101	Maximum discharge capacity is estimated at 72,000 gpd (50 gpm pumping capacity). Overall average flow when operating is 1,400 gpd (December 1, 2014 – April 30, 2019)	Discharge from the Oil Water Separator which receives stormwater runoff and other water that may come in contact with oil. Representative samples shall be collected at the end of the flexible hose.
102	Maximum design flow is 316,400 gpd. Last reported discharge was 199,875 gpd. (February 2019)	Discharge from multimedia filter backwash, reverse osmosis reject, and dilution groundwater. 3 grab samples shall be collected from a tap on the multimedia filter backwash pipe within 30 minutes of filter backwash.
103	Sample point is currently inactive.	Discharge of Blowdown from the Evaporative Condenser/Inlet Air Cooling System and ice storage tank to Outfall 001. This sampling point is inactive. The permittee shall notify the Department prior to re-activating the Inlet Air Cooling System/Evaporative Condenser.
001	Maximum design flow is 388,400 gpd. Overall average flow of 17,622 gpd (December 1, 2014 – April 30, 2019)	Combined wastewater discharge from sample points 101, 102, and 103. Samples shall be collected in the manhole upstream of the outfall.

1 Surface Water - Proposed Monitoring and Limitations

1.1 Sample Point (Outfall): 101- Oil Water Separator

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Quarterly	Estimated	
Oil & Grease	Monthly Avg	15 mg/L	Quarterly	Grab	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
(Hexane)					
BETX, Total		ug/L	Annual	Grab	
PAHs		ug/L	Annual	Grab	
PAHs		ppb	Annual	Calculated	Report the concentration of PAH group of 10 compounds using the toxicity equivalency factor (TEF). See PAH section in permit.

1.1.1 Changes from Previous Permit

PAHs: A parameter to report the total sum of PAH group of ten compounds using the toxicity equivalency factor was included in the permit.

BOD₅: The monitoring requirement for Biochemical Oxygen Demand (BOD₅) was removed from the permit.

1.1.2 Explanation of Limits and Monitoring Requirements

Refer to the WQBEL memo for the detailed calculations, prepared by Nicole Krueger, dated August 27th, 2019, and used for this reissuance.

- **Oil and Grease (Hexane):** The 15 mg/L daily maximum limit is a treatment technology-based limit that reflects the ability of an oil/water separator to easily remove oil and grease. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.
- **BETX, Total (benzene, ethylbenzene, toluene, and xylenes):** Monitoring only. The reported concentrations have been well below the level of concern as BETX is usually only associated with the tank bottom water.
- **PAHs:** To prevent an overestimation of the toxicity for the PAH group of 10, an alternative method for summing PAH compounds using a toxicity equivalency factor (TEF) is provided in the September 2015 guidance document, “*PAH Group of 10 Calculation Using Toxicity Equivalent Factors*”. This method was established for each compound relative to benzo(a)pyrene in order to normalize the associated toxicity. For calculating the concentration for the PAH group of 10, each PAH compound should be multiplied by the corresponding TEF and a summation of the results should be recorded. In addition to the traditional PAH sampling and reporting, the proposed permit also includes calculation and reporting for the PAH Group of 10 using the TEF. A table which includes the PAH group of 10 and corresponding TEF can be found in the PAH section of the permit.

Note: The software program used by DNR to draft and code permits does not allow the same “units” to be listed for the same parameter with the same monitoring frequency. To accommodate for this, the PAH group of 10 calculation units are listed as ppb in the monitoring table. The units ug/L and ppb are synonymous.

- **BOD₅:** This parameter is typically monitored to gather information on BOD₅ levels for all wastewaters that are discharged to surface water. In accordance with s. NR 205.066, Wis. Adm. Code, the Department shall determine on a case-by-case basis the monitoring frequency to be required for each effluent limitation in a permit. Previous monitoring shows levels of BOD₅ in the discharge to be either non-detect or less than 2 mg/L, which is substantially lower than the best professional judgment limit of 20 mg/L that was established in accordance with

s. NR 220.21, Wis. Adm. Code. Because reported concentrations have been well below the level of concern, monitoring for this parameter is discontinued.

1.2 Sample Point Number: 102- Multimedia Filter Backwash RO

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Quarterly	Estimated	
Suspended Solids, Total	Daily Max	40 mg/L	Quarterly	3-Hr Comp	Collect 3 grab samples within 30 minutes of filter backwash.

1.2.1 Changes from Previous Permit

No changes from previous permit.

1.2.2 Explanation of Limits and Monitoring Requirements

- Total Suspended Solids:** The limit for TSS of 40 mg/L as a daily maximum is achievable by application of best practicable control technology currently available for these types of discharges. This established effluent limitation is based on the average of the best performance of the treatment technologies used for similar types of discharges. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

1.3 Sample Point Number: 103- Inlet Air Cooling System

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Halogen, Total Residual as Cl ₂	Daily Max	19 ug/L	Monthly	Grab	
Halogen, Total Residual as Cl ₂	Weekly Avg	7.3 ug/L	Monthly	Grab	
pH (Minimum)	Daily Min	6.0 su	Monthly	Grab	
pH (Maximum)	Daily Max	9.0 su	Monthly	Grab	
Time		hours	Daily	Calculated	Report the number of hours discharge occurred from the evaporative condenser blowdown for the 24-hour period. See Additives section in permit.
Temperature Maximum		deg F	3/Week	Grab	

1.3.1 Changes from Previous Permit

The Daily Maximum limit for Total Halogen Residual as Cl₂ was reduced from 38 mg/L to 19 mg/L.

Temperature monitoring three times per week was added to the modified permit, and the schedule “Inlet Air Cooling System” (previously referenced in section 2.4 of the current permit fact sheet) was removed.

1.3.2 Explanation of Limits and Monitoring Requirements

The process streams contributing to this sample point are not in service at this time and discharge from this sample point is inactive. The permittee shall notify the Department prior to re-activating the Evaporative Condenser/Inlet Air Cooling System. The monitoring requirements in the table above are effective whenever discharge occurs at Sampling Point 103. Sample point 103 was established in order to provide information on potential effluent quality if the EC/IACS is put back into service.

- **Flow rate:** Monitoring is included so the permittee can report the volume discharged from Sample Point 103 to Outfall 001.
- **pH:** pH monitoring is included based on the limits and monitoring requirements included for Outfall 001 pursuant to s. NR 102.04 (4) (c), Wis. Adm. Code.
- **Halogen, Total Residual as Cl₂:** Monitoring for Total Residual Halogens is required because the evaporative condenser blowdown from the EC/IACS may be treated with a chlorine/bromine-based agent for biofouling control and then dehalogenation prior to discharge. The limit was reduced to comply with changes to NR 106, Wis. Adm. Code, which require the 1-Q10 receiving water low flow to be used to calculate acute limits if it is more restrictive than using 2 times the acute toxicity criteria (ATC). The 2 x ATC method was used to calculate limits in the previous permit. In the proposed permit, the 1-Q₁₀ receiving water low flow calculation is used.
- **Time:** Time reporting is required in order to track the usage of additives when the EA/ICS is in operation. A use restriction is in effect for additives if the blowdown discharge at Sample Point 103 were to occur for 48 consecutive hours or longer. If discharge from the evaporative condenser blowdown occurs, reporting shall consist of the number of hours of discharge within a 24-hour period. See Additives section in the permit for additional information.
- **Temperature Maximum:** Temperature monitoring three times per week was added to the modified permit and is immediately required upon activation of the inlet air cooling system, as the system could add heat load to the discharge. Monitoring is required pursuant to ss. NR 106.54 (3), and NR 106.56(12) and (13), Wis. Adm. Code.

1.4 Sample Point (Outfall): 001- Combined Wastewater Discharge

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Monthly	Estimated	
pH Field	Daily Min	6.0 su	Monthly	Grab	
pH Field	Daily Max	9.0 su	Monthly	Grab	
Phosphorus, Total	Monthly Avg	3.0 mg/L	Weekly	Grab	Effective upon reissuance, through September 30, 2021. Final limits become effective October 1, 2021. See ‘Water Quality Trading

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					(WQT)' sections for more information.
Phosphorus, Total		lbs/day	Weekly	Calculated	Report daily mass discharged using Equation 1a in the 'Water Quality Trading (WQT)' section.
WQT Credits Used (TP)		lbs/month	Monthly	Calculated	Report WQT TP Credits used per month using Equation 2c in the 'Water Quality Trading (WQT)' section. Value entered on the last day of the month.
WQT Credits Used		lbs/yr	Annual	Calculated	The sum of total monthly credits used may not exceed Table 1 values listed below.
WQT Computed Compliance (TP)	Monthly Avg	0.225 mg/L	Monthly	Calculated	Limit is effective October 1, 2021. Report the WQT TP Computed Compliance value using Equation 3a in the 'Water Quality Trading (WQT)' section. Value entered on the last day of the month.
WQT Computed Compliance (TP)	6-Month Avg	0.075 mg/L	Monthly	Calculated	Limit is effective October 1, 2021. Report the WQT TP Computed Compliance value using Equation 3a in the 'Water Quality Trading (WQT)' section. Value entered on the last day of the month.
WQT Computed Compliance (TP)	6-Month Avg	0.063 lbs/day	Monthly	Calculated	Limit is effective October 1, 2021. Report the WQT TP Computed Compliance value using Equation 3b in the 'Water Quality Trading (WQT)' section. Value entered on the last day of the month.
Additive - GE Betz Continuum AEC 3138	Daily Max	5.1 mg/L	Daily	Calculated	A use restriction is in effect for this additive if the blowdown discharge at Sample Point 103 were to

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					occur for 48 consecutive hours or longer, with a daily maximum limit of 5.1 mg/L.
Additive- Betz Dearborn DLC30	Daily Max	0.96 mg/L	Daily	Calculated	A use restriction is in effect for this additive if the blowdown discharge at Sample Point 103 were to occur for 48 consecutive hours or longer, with a daily maximum limit of 0.96 mg/L.
Chronic WET		TUc	See Listed Qtr(s)	3-Hr Comp	See WET Testing section in permit.

1.4.1 Changes from Previous Permit

Additive – GE Betz Continuum AEC 3138: The daily maximum limit was decreased from 45 mg/L to 5.1 mg/L.

Additive – Betz Dearborn DLC30: A daily maximum limit of 0.96 mg/L was added to the proposed permit.

Temperature, Maximum: Temperature limits and monitoring were removed from the modified permit for Outfall 001.

Total Phosphorus: The final water quality-based effluent limits for phosphorus are 0.075 mg/L and 0.063 lbs/day, expressed as six-month average, and 0.225 mg/L expressed as a monthly average, as specified in conjunction with the Phosphorus compliance schedule and are effective October 1, 2021. The current permit's final mass limit of 0.022 lbs/day was calculated based on the final six-month average WQBEL of 0.075 mg/L and the maximum annual average flow rate of 0.0348 MGD including zero flow days. The modified permit's limit of 0.063 lbs/day is based on the maximum 6-month average flow rate of 0.1 MGD, excluding zero flow days. This change was made due to noncontinuous flow and multiple days of the year with no flow. Compliance with the mass limit is calculated excluding the zero flow days.

Final limits can be met using generated credits and will be reported as "WQT TP Computed Compliance". Water Quality Trading equations were updated in the modified permit to enable calculation of a more representative monthly average credit use value. Equations in the current permit did not account for days of zero discharge in the monthly average, which frequently occur at the facility as the effluent is highly variable and discharge is noncontinuous. The available pounds of phosphorus expected to be available for trade once practices are installed are summarized in the table below:

Table 1. Available Total Phosphorus Credits per WQT-2019-0011

Year	Available TP Credits (lbs/yr)
2021	13.3
2022	90.6
2023	59.2
2024	85.5

1.4.2 Explanation of Limits and Monitoring Requirements

Refer to the WQBEL memo for the detailed calculations, prepared by Nicole Krueger, dated August 27th, 2019, and used for this reissuance.

- **pH:** pH is limited to the range of 6.0 to 9.0 standards units (s.u.). This limit is consistent with the water quality-based pH range for waters classified for fish and aquatic life pursuant to s. NR 102.04 (4)(c), Wis. Adm. Code.
- **Temperature, Maximum:** New surface water quality standards for temperature took effect on October 1, 2010. These regulations are detailed in ch NR 102 (Subchapter II – Water Quality Standards for Temperature) and ch. NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. The current permit requires temperature limits year-round. The modification to the permit proposes to remove the temperature limitations and monitoring for Outfall 001 based on the following: WE Energies submitted representative temperature data from Outfall 001 from 10/01/2019 – 09/30/2020. Because the discharge is to an effluent channel and roadside ditch before meeting the unnamed tributary where limits apply, a heat loss equation is used to adjust the calculated limit based upon the length of the channel before discharge to waters of the state. The discharge from permit Outfall 001 travels through about 2,717 feet of channel before reaching the unnamed tributary to the Des Plaines River. Under s. NR 106.55(5), Wis. Adm. Code, the default cooling rate is estimated as 1° F for every 400 feet of storm sewer/storm water conveyance channel. The adjusted limits are shown in the table. Based on available effluent data, no effluent temperature limits are recommended and are therefore removed in the modified permit. A full calendar year of temperature monitoring was completed under the current permit. In order to continue justification for no reasonable potential to exceed calculated temperature limits, the Department may request collection of temperature monitoring at Outfall 001 in the next permit reissuance cycle.

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum	Daily Maximum	Weekly Average Effluent Limitation	Daily Maximum Effluent Limitation
	(°F)	(°F)	(°F)	(°F)
JAN	43	60	56	83
FEB	43	54	57	83
MAR	50	60	59	84
APR	60	62	62	86
MAY	68	75	72	89
JUN	72	81	83	91
JUL	76	83	88	92
AUG	76	77	88	91
SEP	69	74	80	89
OCT	62	70	68	87
NOV	52	60	56	84
DEC	53	60	56	83

- **Total Phosphorus:** The proposed permit will be WE-PSGS's second permit term under new administrative rules for phosphorus discharges that took effect December 1, 2010. Details regarding the administrative rules for phosphorus discharges may be found at: <http://dnr.wi.gov/topic/surfacewater/phosphorus.html>. The new phosphorus rules are contained in s. NR 102.06 and ch. NR 217, Subchapter III. WE-PSGS's final water quality-based effluent limits for phosphorus are 0.075 mg/L and 0.063 lbs/day, expressed as six-month average, and 0.225 mg/L, expressed as a monthly average, as specified in conjunction with the Phosphorus compliance schedule and are effective October 1, 2021. A 3.0 mg/L monthly average minimum control level is included and is effective upon permit reissuance and through September 30, 2021.

- Whole Effluent Toxicity:** Whole effluent toxicity (WET) testing requirements are determined in accordance with ss. NR 106.08 and NR 106.09, Wis. Adm. Code, as revised in August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at <http://dnr.wi.gov/topic/wastewater/wet.html>). If total points for acute WET testing are 14 or less, no acute testing is recommended since the potential for toxicity is low. If the total points for chronic WET testing are between 20-24, two tests during the permit term are recommended, as there are factors which may potentially cause toxicity. Annual Chronic WET tests are scheduled for the following quarters: April - June 2021 and July – September 2023. An alternate primary control water and dilution was approved by the Department on November 16, 2016, and is identified in the permit as “Grab sample collected from the on-site high capacity well”. Chronic WET testing continues after the permit expiration date until the permit is reissued, in accordance with WET requirements specified in the permit. For example, the next tests would be required in July – September 2025 and July-September 2027.
- Additives:** Secondary values are derived according to NR 105.05, Wis. Adm. Code. Use restrictions for the additive GE Betz Continuum AEC 3138 are included if discharge occurs for 48 hours or longer. Use restrictions for the additive Betz Dearborn DLC30 are included if discharge occurs for 48 hours or longer. The permittee shall maintain a record of the dosage rate of all additives used on a monthly basis. Additives may be changed during the permit term following procedures in the ‘Additives’ subsection of the Standard Requirements section of the permit.

2 Schedules

2.1 Annual Water Quality Trading (WQT) Report

Required Action	Due Date
Annual Water Quality Trading Report (WQT): Submit an annual WQT report that shall cover the first year of trading in the permit term. The WQT report shall include: <ul style="list-style-type: none"> The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance; The source of each month’s pollutant reduction credits by identifying the approved water quality trading plan that details the source; A summary of the annual inspection of each nonpoint source management practice that generated any of the pollutant reduction credits used during the previous year; and Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports. 	01/31/2022
Annual WQT Report #2: Submit an annual WQT report that shall cover the previous year.	01/31/2023
Annual WQT Report #3: Submit an annual WQT report that shall cover the previous year.	01/31/2024
Annual WQT Report Required After Permit Expiration: In the event that this permit is not reissued by the expiration date, the permittee shall continue to submit annual WQT reports by January 31 each year covering the total number of pollutant credits used, the source of the pollution reduction credits, a summary of annual inspection reports performed, and identification of noncompliance or failure to implement any terms or conditions of the approved water quality trading plan for the previous year.	

2.1.1 Explanation of Schedule

This schedule requires the permittee to submit annual reports detailing all inspections and maintenance of established practices to generate credits for use in determining the “WQT TP Computed Compliance” on a monthly basis, starting with the first year of trading in the permit term (October 1, 2021- December 31, 2021).

2.2 Water Quality Trading (WQT) Management Plan

Required Action	Due Date
Submit Progress Report #1 on Management Practices Installation: Submit a progress report on the installation of management practices as identified in the Water Quality Management Plan WQT-2019-0011 as approved by the Department.	12/31/2019
Submit Progress Report #2 on Management Practices Installation: Submit a progress report on the installation of management practices as identified in the Water Quality Management Plan WQT-2019-0011 as approved by the Department.	12/31/2020
Complete Installation of Management Practices: The Management Practices as identified in the Water Quality Trading Plan shall become effective and the permittee shall submit a completed Management Practice Registration Form 3400-207 for each site.	09/30/2021
Comply with Total Phosphorus Limit: Comply with the TP limits as specified in Table 1.	10/01/2021

2.2.1 Explanation of Schedule

This schedule requires the permittee to submit a progress report on the installation of practices identified in the Water Quality Trading Management Plan. The schedule also requires the permittee to install and manage the identified practices in the approved Water Quality Trading Management Plan to comply with the total phosphorus limits specified in section 1.2.4 of the permit.

Attachments:

Substantial Compliance Determination dated August 21st, 2019 and prepared by Bryan Hartsook.

Water Quality-Based Effluent Limitations for the Wisconsin Electric Power Company – Town of Paris, dated August 27th, 2019 and prepared by Nicole Krueger.

Temperature Limits for Receiving Waters with Unidirectional Flow, prepared by Nicole Krueger, dated November 11, 2020.

Proposed Expiration Date:

September 30, 2024

Special Reporting Requirements:

None.

Justification Of Any Waivers From Permit Application Requirements

No waivers were given from permit application requirements.

Prepared By: Lisa Creegan, Wastewater Specialist

Date: April 9, 2021

Temperature limits for receiving waters with unidirectional flow

(calculation using default ambient temperature data)

Facility:	WE Energies Paris	7-Q₁₀:	0.00	cfs	Temp Dates	Flow Dates
Outfall(s):	001	Dilution:	25%		Start:	10/01/19
Date Prepared:	11/11/2020	f:	0		End:	09/30/20
Design Flow (Q_e):	0.03 MGD	Stream type:	Small warm water sport or forage fish co ▼			
Storm Sewer Dist.	2717 ft	Qs:Q_e ratio:	0.0 :1			

Calculation Needed? YES

Month	Water Quality Criteria			Receiving Water Flow Rate (Qs) (cfs)	Representative Highest Effluent Flow Rate (Qe)		f	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit		Adjusted Thermal Limits	
	Ta (default)	Sub-Lethal WQC	Acute WQC		7-day Rolling Average (Qesl)	Daily Maximum Flow Rate (Qea)		Weekly Average	Daily Maximum	Weekly Average Effluent Limitation	Daily Maximum Effluent Limitation	Weekly Average	Daily Maximum
	(°F)	(°F)	(°F)		(MGD)	(MGD)		(°F)	(°F)	(°F)	(°F)	(°F)	(°F)
JAN	33	49	76	0.00	0.005	0.017	0	43	60	49	76	56	83
FEB	34	50	76	0.00	0.002	0.009	0	43	54	50	76	57	83
MAR	38	52	77	0.00	0.009	0.036	0	50	60	52	77	59	84
APR	48	55	79	0.00	0.014	0.043	0	60	62	55	79	62	86
MAY	58	65	82	0.00	0.104	0.295	0	68	75	65	82	72	89
JUN	66	76	84	0.00	0.061	0.172	0	72	81	76	84	83	91
JUL	69	81	85	0.00	0.269	0.350	0	76	83	81	85	88	92
AUG	67	81	84	0.00	0.108	0.240	0	76	77	81	84	88	91
SEP	60	73	82	0.00	0.094	0.270	0	69	74	73	82	80	89
OCT	50	61	80	0.00	0.106	0.369	0	62	70	61	80	68	87
NOV	40	49	77	0.00	0.038	0.190	0	52	60	49	77	56	84
DEC	35	49	76	0.00	0.033	0.160	0	53	60	49	76	56	83